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AUTHOR Christiansen, Bruce; Goldman, Mark S.
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ABSTRACT

Experimental research has firmly established the role of expectancies in determining the behavioral consequences of alcohol consumption. To ascertain whether these alcohol expectancies derive from direct pharmacological experience with alcohol or from nonpharmacological, social-learning factors, an adolescent expectancy questionnaire was constructed for use with adolescents aged 12-19. Adolescents (N=1,580), making the transition from nondrinking to regular alcohol consumption, completed the 139 item true-false questionnaire and survey of the parameters of their drinking behavior. Age-stratified factor analyses showed seven cognitive alcohol expectancies which existed prior to substantial drinking experience but which changed with increases in age and drinking experience. The findings suggest that the causal relationships between cognitive expectations and drinking behavior are not as simple as cause and effect. Expectancy scales may prove to be a useful assessment technique and aid in the development of early prevention/intervention strategies. (PAS)

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ADOLESCENT ALCOHOL EXPECTANCIES: THEIR ORIGIN AND RELATIONSHIP TO DRINKING STYLES

Bruce Christiansen
Mark S. Goldman
Wayne State University

CG 016560

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Adolescent Alcohol Expectancies:

Their Origin and Relationship to Drinking Styles

Abstract

Studies have shown that expectancies can determine actual behavioral effects of alcohol. To determine if expectancies derive from pharmacological or social learning factors, the present study investigated the domain of alcohol expectancies in adolescents in transition from nondrinking to adult drinking practices. To this end, an adolescent expectancy questionnaire was constructed for use with adolescents, aged 12 to 19. The results of age-stratified factor analyses showed that expectancies exist prior to substantial drinking experience but change with increases in age and drinking experience. Remarkably, these seven cognitive alcohol expectancies proved, in multiple regression analysis, to be better predictors of adolescent drinking style than the numerous background variables implicated by past research.

Adolescent Alcohol Expectancies: Their Origin and Relationship to Drinking Styles

Experimental research has firmly established the role of expectancies in determining the behavioral consequences of alcohol consumption (see review by Marlatt & Rohsenow). In recent work, Brown, Goldman, Inn, and Anderson (1980) have delineated the domain of alcohol expectancies in adult nonalcoholics by factor-analyzing college students' responses to a questionnaire containing possible reinforcing consequences of drinking.

The present study was designed to ascertain whether these alcohol expectancies derived from direct pharmacological experience with alcohol or from nonpharmacologicl, social-learning factors (acculturation processes). To provide a natural, independent manipulation of these variables, we studied the alcohol expectancies of individuals in our society making the transition from nondrinking to regular alcohol comsumption. We further intended to compare the utility of alcohol expectancies with a variety of previously researched background variables in predicting adolescent drinking patterns. Since a case can be made for expectancies playing a mediational role in deteming actual drink drinking, such a comparison represents a critical test of the theoretical importance of expectancies in the causal matrix for ethanol consumption. Since background variables such as religious affiliation, religiosity, and parental drinking behavior have been successfully used to predict onset of drinking in adolescents (Jessor & Jessor,1975), this comparison also represents a particularly stringent test of the role of expectancies.

Method

Subjects

The subjects were 1580, 12 to 19-year old adolescents who were approximately evenly distributed across age and sex groupings. They came from

normal classrooms within four suburban Detroit school districts ranging from lower-middle class communities, to an upper-middle class professional area. Age groups did not differ relative to demographic variables.

Procedure

Each subject was given a background questionnaire, the Alcohol Expectancy Questionnaire for Adolescents (AEQ-A) which contained 139 expectancy statements to which the adolescents were instructed to indicate "true" or "false," and a survey of the parameters of the adolescents' drinking behavior.

AEQ-A item selection. The 139 (129 items, plus 10 repeated items) expectancy statements were derived in two phases. The item selection procedure was designed to capture all of the adolescents' beliefs, positive and negative, regarding the parmacological and behavioral effects of drinking alcohol. In Phase I items were chosen from Brown's original 216 item pool based on their psychometric properties and their inclusive representation of adolescent expectancies. Additional items were then included, based upon reasons given by adolescents for drinking/abstinence in the reported literature, or upon openended interviews with 10 of the pilot subjects. Any words in the selected items that were judged to be difficult for young readers were replaced by less difficult synonyms. In Phase 2, the remaining 10 pilot subjects filled out the initial version of the AEQ-A. Their questions led to some additional items and minor changes in the format and wording of the AEQ-A.

Item selection produced a final questionnaire which both overlapped and contained systematic differences with that of Brown et al. (1980). Specifically the AEQ-A contained statements regarding the possible effects of drinking large amounts of alcohol, possible negative effects, and possible effects relevant only to adolescents.

Final Questionnaire administration. The Questionnaire was administered by the experimenter in the students' classrooms using both written and verbal

instructions. Following administration, questions were answered and subjects were thanked for their cooperation. Questionnaires did not include identifying information.

Results

Reliability of AEQ-A

The estimate of internal consistency based upon the entire set of 129 items, coefficient Alpha = .893 (Hull & Nie, 1979; Nunnally, 1967), demonstrated little measurement variance.

Adolescent Alcohol Expectancies

Since it could not be assumed that adolescents of various ages possess the same alcohol expectancies, factor analyses were undertaken separately for three age groups, 12 to 14 years; 15 to 16 years; and 17 to 19 years (733, 436, and 411 subjects respectively). Principal components factor analysis with orthogonal rotation (Kim, 1975) produced a two-factor optimal solution for each sample. Interpretation of these two factors were identical for each age group and indicated that adolescents' superordinate expectancies are of global positive versus negative effects.

The presence of a number of smaller factors which accounted for a sizeable amount of the remaining variance led to further analysis using a Hierarchical Factor Analytic Procedure (Schmid & Lieman, 1957). In this method, the highest level factors revealed are the most global and conceptually subsume factors lying at lower levels. This procedure resulted in 33, 33, and 34 factors at Level I (for age groups in ascending order); 8, 8, and 7 factors at Level II; 2 factors for all groups at Level III (the same factors as identified by the original factor analysis); and one factor for all groups at Level IV.

Based on Comrey's (1978) guidelines, comparisons were made among the Level II factors. The considerable similarity between the age groups included the repetition of six themes: a) Alcohol decreases physical tension; b) Alcohol

diverts one from worries; c) alcohol increases an individual's sense of interpersonal power and aggressiveness; d) alcohol is a magical transforming agent; e) alcohol enhances social and physical pleasure; and f) alcohol modifies social-emotional behavior either positively or negatively. Beyond this similarity, expectancy factors consolidated and became less ambiguous as subject's age and experience with alcohol increased.

Prediction of Drinking Style

Because of the factor similarity of the age groups, it was not necessary to subdivide the total sample for the investigation of the predictive utility of adolescents' alcohol expectancies. A Hierarchical Factor Analysis of the total sample revealed eight factors of Level II. These factors served as initial alcohol expectancy scales. These scales were rendered nonoverlapping and modified until 1) Coefficient Alpha for a scale could not increase by the elimination of any expectancy item; 2) every item in each scale correlated higher with its own scale than with any other scale; and 3) the correlation between any unused items and a scale did not exceed the adjusted correlation between that scale and any of its items. It was then decided to merge two of the scales due to high intercorrelation (.471) and almost identical item content. These seven expectancy scales were given the following interpretative labels: 1) Alcohol is a powerful agent that makes global positive transformation. 2) Alcohol can enhance or impede social behavior. 3) Alcohol improves one's cognitive and motor abilities. 4) Alcohol produces sexual enhancement. 5) Alcohol leads to deteriorated cognitive and behavioral functions. 6) Alcohol increases arousal. 7) Alcohol promotes relaxation or tension reduction.

The variables representing the adolescents' drinking patterns were combined via factor analysis (Kim, 1975). Three independent drinking styles resulted: 1) Frequent social drinking; 2) problematic nonsocial drinking; and 3) drinking within the family. These three drinking styles served as the predicted variables for both the seven alcohol expectancy scales and a set of background variables

selected because of their predictive powers in past research (age, sex, religious affiliation, religiosity, and overall drinking attitude of respondent, parental ethnic background, nativity, drinking behavior, overall drinking attitude, and the presence of an alcoholic within the family). Not only did the alcohol expectancy scales predict frequent social drinking, and problem drinking, better than the background variables, but they made a unique contribution to the prediction of adolescent drinking after the background variables were entered into a step-wise multiple regression procedure (Kim & Kohout, 1975). These results remained after double cross validation. The expectancy scales did not predict the family drinking style. Apparently, this style is an age-related phenomenon, as age was the only variable that produced a substantial correlation (see Table 1).

Discussion

The clear existance of alcohol expectations among the youngest, relatively inexperienced, drinkers confirms that such expectations are operative during initial drinking. Undoubtedly, these expectancy beliefs are conveyed by family, peer group, and the media, as well as by observations of the drinking by others. Such beliefs may then influence actual drinking consequences and drinking behavior via a self-fulfilling prophecy mechanism. Such a notion is consistent with the established correlation between initial drinking experience and eventual abusive vs. nonabusive adult drinking practices (Senter, Heintzelman, Dorfmueller, & Hinkle, 1979).

On the other hand, however, alcohol expectations are not static. They do change with age and drinking experience until the expectancies of the oldest adolescents approach those of adults (Brown et al., 1980). Obviously, the casual relationships between cognitive expectations and drinking behavior are not as simple as cause and effect.

Arguments for the mediational role of these expectancies in determining actual drinking are strengthened by the predictive superiority of the alcohol expectancy scales over the combined predictability of relevant background variables. These expectancy scales may prove to be a useful assessment technique and aid in the development of early prevention intervention strategies.

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Table I

Prediction of adolescent Drinking Style

Drinking Style	Multiple Correlation	
	Total Sample	Double Cross Validated
Drinking Style 1		
Background	.57	.57
Alconol Expectancy Scales	.61	.60
Background plus Alcohol Expectancy Scales	.67	.66
Drinking Style 2		
Background	.23	.14
Alcohol Expectancy Scales	.25	.25
Background plus Alcohol Expectancy Scales	.30	.20
Drinking Style 3		
Background	.23	.15
Alcohol Expectancy Scales	--	--
Background plus Alcohol Expectancy Scales	.24	.11